

REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-17 are pending in the present application. Claims 1, 6, 8, 9, and 12 are amended and Claims 5 and 11 are canceled without prejudice by the present amendment.

In the outstanding Office Action, Claims 1 and 11-12 were rejected under 35 U.S.C. § 103(a) as unpatentable over Applicants' Admitted Art (AAA) in view of Otaka et al. (Published Unexamined Patent Application JP 03-174514, herein "Otaka"); and Claims 2-10 and 13-17 were rejected under 35 U.S.C. § 103(a) as unpatentable over AAA, Otaka, and Lewiner et al. (U.S. Patent No. 4,194,189, herein "Lewiner").

Regarding the rejection of Claims 1 and 11-12 under 35 U.S.C. § 103(a) as unpatentable over AAA in view of Otaka, independent Claims 1 and 12 have been amended to more clearly recite that a second critical voltage is different from a first critical voltage "due to a dimensional difference between the first and the second movable film electrodes or a positional arrangement of the first and the second movable film electrodes to the first and the second fixed electrodes," and Claim 11 has been canceled. The claim amendments find support in originally filed Claims 2, 4, and 5, and in Figures 9 and 13. In addition, independent Claim 1 is amended to recite a variable voltage source having first and second output terminals as shown in Figure 9. No new matter is believed to be added.

Briefly recapitulating, independent Claim 1 is directed to an actuated film display device that includes, *inter alia*, a first fixed electrode, a first movable film electrode, a second fixed electrode, a second movable film electrode, and a variable voltage source. The first fixed electrode and the first movable film electrode have a first critical voltage and the second fixed electrode and the second movable film electrode have a second critical voltage.

The second critical voltage is different from the first critical voltage due to a dimensional difference between the first and second movable film electrodes or a positional arrangement of the first and second movable film electrodes to the first and second fixed electrodes. The variable voltage source has a first output terminal and a second output terminal, the first terminal is connected to a first signal line, the second terminal is connected to a second signal line, the first and second movable film electrodes are connected to the first signal line, and the first and second fixed electrodes are connected to the second signal line. In addition, the first and second critical voltages shut off the first and second optical paths, respectively.

Independent Claim 12 has been amended similar to independent Claim 1.

In a non-limiting example, Figure 9 shows the first fixed electrode 231a, the first movable film electrode 232a, the second fixed electrode 231b, the second movable film electrode 232b, and the variable voltage source 11. In another non-limiting example, Figure 10 shows that a first critical voltage (corresponding to point A) is different than a second critical voltage (corresponding to point B).

Turning to the applied art, AAA does not teach or suggest first and second critical voltages being different, the first and second movable film electrodes being connected to a first signal line, the first and second fixed electrodes being connected to a second signal line, and a variable voltage source having a first output terminal and a second output terminal connected to the first signal line and the second signal line, respectively.

The outstanding Office Action relies on Otaka for teaching a second critical voltage being different than a first critical voltage. However, Otaka discloses a ferroelectric liquid crystal display element in which a separating wall is provided in each pixel and liquid crystal materials having different threshold voltages are mixed in a cell, thereby realizing a gray scale display. Thus, Otaka discloses performing a gray scale display with liquid crystal

optical switches having different threshold voltages. Because the types of display elements are different from each other in Otaka, the threshold values corresponding to the display elements are also different.

However, Otaka does not teach or suggest a first critical voltage different than a second critical voltage due to a dimensional difference between the first and second movable film electrodes or a positional arrangement of the first and second movable film electrodes to the first and second fixed electrodes, as required in amended Claims 1 and 12. On the contrary, Otaka shows different first and second critical voltages due to a different material of the ferroelectric liquid crystals used.

Further, Otaka does not teach or suggest the other features missing in AAA, namely, first and second movable film electrodes being connected to a first signal line, first and second fixed electrodes being connected to a second signal line, and a variable voltage source having a first output terminal and a second output terminal connected to the first signal line and the second signal line, respectively.

In addition, Otaka shows in Figure 3 that light is transmitted for any voltage bigger than or equal to the first critical voltage and smaller than the second critical voltage. On the contrary, Claims 1 and 12 recite that the first optical path is shut off when a voltage not less than the first critical voltage is applied (thus no light transmission).

Accordingly, Applicants respectfully submit that amended Claims 1 and 12 and each of the claims depending therefrom patentably distinguish over AAA and Otaka, either alone or in combination.

Regarding the rejection of Claims 2-10 and 13-17 under 35 U.S.C. § 103(a) as unpatentable over AAA, Otaka and Lewiner, Applicants respectfully traverse this rejection for the following reasons.

The outstanding Office Action recognizes at page 6, last full paragraph, that “Lewiner et al does not show the actuated film display device with a distance between the fixed and movable ends differs for the first and second electrodes, … and a distance between the first fixed electrode and the fixed end of the first movable film electrode differs from a distance between the second fixed electrode and the fixed end of the second movable film electrode.” Further, the outstanding Office Action asserts that because Lewiner teaches “different shapes” of the electrodes, it would “have been obvious to one of ordinary skill in the art at the time of invention was made to incorporate the teaching of Lewiner et al. into APA and Otaka et al. system in order to control different critical voltages and obtain gray scale.”

However, Lewiner states at column 8, lines 4-9, that “… electrodes **21** and **22** which are substantially parallel may be sloping in relation to each other and have different shapes so that when they come into contact, the shape of the mobile assembly may mate better with the shape of the fixed electrode **21** or **22** against which it comes into contact.”

Thus, Lewiner merely states that the shapes of the fixed electrodes 21 and 22 can be changed to better mate the fixed electrodes with the mobile electrodes when the electrodes come into contact with each other. Figure 4 of Lewiner shows that a critical voltage is determined in accordance with the size and position of the mobile electrode 26, but the critical voltage is not changed based on the shapes of the fixed electrodes 21 and 22. The critical voltage is defined based on a sudden displacement of a tip of a movable electrode, as shown in Figure 2C of the present application.

Accordingly, Applicants respectfully submit that one of ordinary skill in the art, based on the teachings of Lewiner, would modify the shapes of the electrodes but not the relative dimensions of the first and second movable film electrodes or a positional arrangement of the first and second movable film electrodes to the first and second fixed electrodes, as required

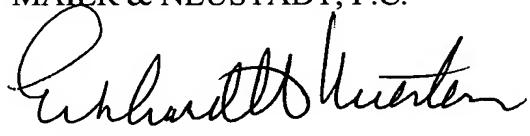
in amended Claims 1 and 12. In addition, Lewiner does not overcome the deficiencies of AAA and Otaka discussed above.

Therefore, Applicants respectfully submit that amended Claims 1 and 12 and each of the claims depending therefrom patentably distinguish over AAA, Otaka, and Lewiner, either alone or in combination.

Consequently, in light of the above discussion and in view of the present amendment, this application is believed to be in condition for allowance and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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